

METHOD AND SYSTEM FOR ALLOCATING BANDWIDTH

ABSTRACT

The present invention is directed to methods and systems for allocating bandwidth
5 (or other shared resource) among multiple masters. According to an aspect of the present
invention, an arbiter assigns a bucket to each CPU (or other device) where each bucket
holds the credits for that CPU. Each bucket has a predetermined fill rate and a drain rate.
Depending on the priority given to a particular CPU, the corresponding bucket will drain
(or fill) at a particular rate. For example, CPUs with a higher priority will drain at a
10 slower rate. For each clock tick (or other period of time) that a CPU is stalled, a number
of credits is accrued. The bucket with the highest number of credits has priority and will
be given access to the shared resource (e.g., DRAM, SDRAM, SRAM, EPROM, etc.).